

Suisun Marsh Rails

(not to be confused with AMTRACK)

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Suisun Marsh Rallidae



- Class Aves
- Order Gruiformes
(rails, cranes, and allies)
- Family Rallidae
(rails, gallinules, and coots)

Yellow Rail

Coturnicops noveboracensis



- Rare winter (Oct. - Apr.) visitor.
- Habitat: shallow marshes & wet meadows; fresh, brackish, or salt.
- Status: Bird Species of Special Concern, Priority 2 (CDFG)

California Black Rail

Laterallus jamaicensis coturniculus

- Uncommon year-round resident.
- Habitat: shallow margins of salt, brackish, or fresh marsh.
- Status: State Threatened, Bird of Conservation Concern (USFWS 2002)



California Clapper Rail

Rallus longirostris obsoletus



- Rare “year-round” resident (??)
- Habitat: tidal channels in larger marsh parcels.
- Status: Federal and State “Endangered.”

Virginia Rail

Rallus limicola

- Common year-round resident, increasing in winter.
- Habitat: Fresh and brackish marshes. Salt marshes in winter.
- Status: none.



Sora

Porzana carolina



- Uncommon breeder and winter resident.
- Habitat: fresh water cat-tail marshes, brackish and salt in winter.
- Status: review species for BSSC (CDFG).

American Coot *Fulicula americana* Common Moorhen *Gallinula chloropus*

- Coot is common, moorhen is uncommon;
- Both breed in freshwater ponds and marshes;
- Coot interts in brackish and salt.
- Status: none.



Special Status Rails of Suisun



California
Clapper Rail



California
Black Rail

California Black Rail



- Secretive denizen of the high marsh plain;
- Suisun Marsh may hold half the extant population;
- Relatively high elevation and cover important factors

BLRA Habitat Requirements

- 100% vegetative cover
- Moist, undisturbed substrate
- Freshwater influence
- Marsh size
- Quality of peripheral vegetation
- Prey base: terrestrial insects, amphipods



Habitat variables

- Vegetation height
- Frankenia score
- Insect score
- Amphipod score (inverse relationship)

BLRA abundance by region

	Size (total ha of habitat)	Mean Abundance Index ± S.E.	Median Abundance Index	# sites	Abundance Estimate based on Median ¹	Adjusted Abundance Estimate from DISTANCE ²
SAN PABLO BAY	5531	1.25 ± 0.345	0.71	13	3,930	7,100
SUISUN & CARQUINEZ	3780	1.43 ± 0.320	1.08	5	4,080	7,200
OUTER COAST	543	0.46 ± 0.196	0.30	5	163	289

BLRA priorities

- Refine abundance estimates (distance)
- Repeat surveys at key sites
- Confront contamination issues
- Answer demographic questions (telemetry)
- Identify sources and sinks
- Population (and metapopulation) modeling
- Incorporate habitat elements into restoration
- Inform resource management efforts

Limitations on habitat availability

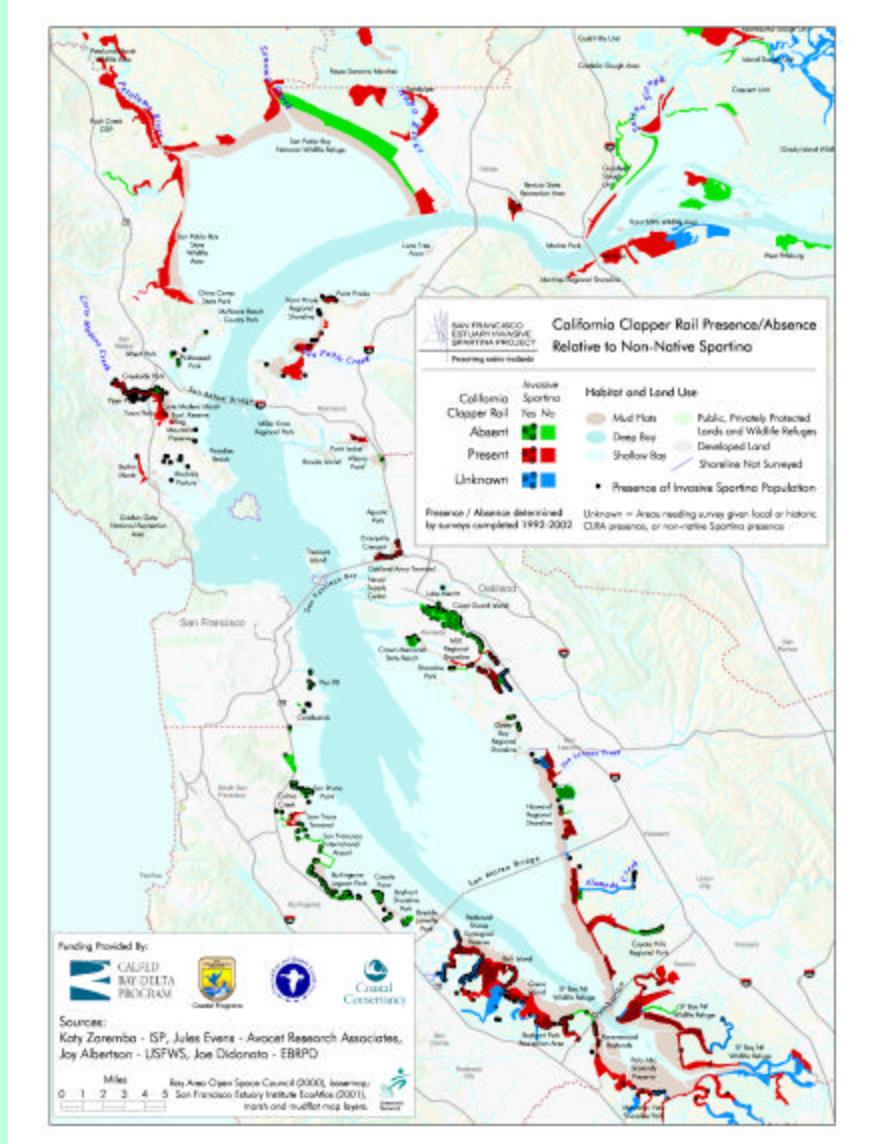


- relatively undisturbed, or mature, old marsh with unrestricted tidal influence.
- limited predator population and/or well-developed refugia
- Urbanization, hardened edges, rising sea level, stochastic events, inadvertent hydrological changes . . .

CLRA abundance by region



- **South Bay 0.23/ha**
[range 0.17-0.26]
- **San Pablo 0.27/ha**
[range 0.17—0.91]
- **Suisun Bay 0.15/ha**
[range 0.01—0.33]



Marsh	sta. no.	min	med	max	#/ sta.	D
South hampton	10	1	1.0	1	0.10	0.03
Martinez shore	12	0	0.0	0	0.00	0.00
Antioch shore	12	0	0.0	0	0.00	0.00
Port Chicago	27	0	0.0	0	0.00	0.00
Hastings Slough	3	0	0.0	0	0.00	0.00
Point Edith	16	13	14.5	16	0.91	0.29
Hammond Is.	5	0	0.0	0	0.00	0.00
Bahia (Goodyear)	5	5	5.5	6	1.10	0.35
Pacheco Crk. W	8	0	0.0	0	0.00	0.00
Suisun Sl. mouth	20	0	0.0	0	0.00	0.00
Navy Point	5	0	0.0	0	0.00	0.00
Cutoff/1st	16	0	0.0	0	0.00	0.00
Mallard Slough	14	0	0.5	1	0.04	0.01
2nd Mallard Sl.	33	3	3.5	4	0.11	0.03
Peytonia Sl.	18	0	0.0	0	0.00	0.00

obsoletus habitat characteristics

- Fully tidal marshes
- Channelization
- Elevational range
- Marsh age & size
- Contiguity
- Refugia
- Spartina or Scirpus



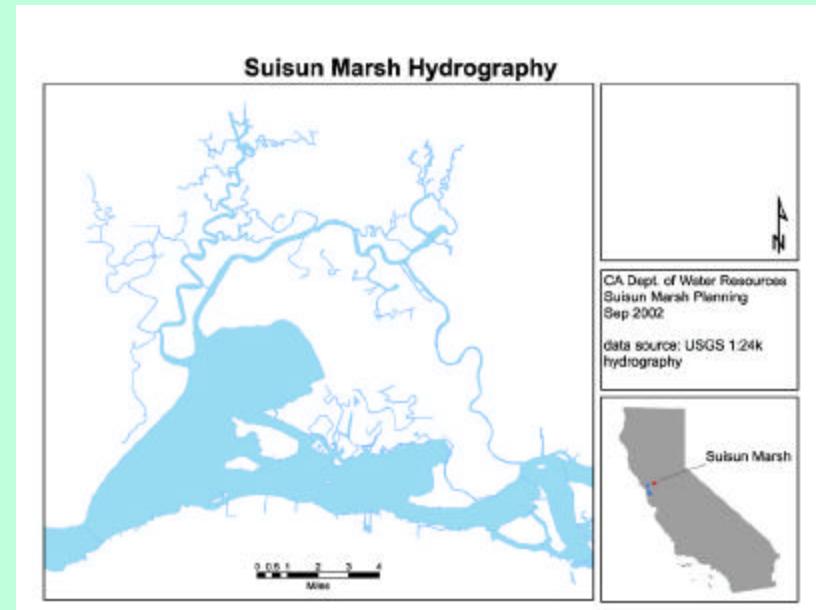
Current research



- Suisun population study (CDFG) 2002-04
- Baywide population 2004-6 (Calfed, etc.)
- Invasive Spartina Project
- Discrete project impacts
- Infrastructure impacts (e.g. Cordelia Slough)
- Restoration monitoring (e.g. IRWM)

Research & management needs

- Annual surveys
- Restoration design
- Demographic info
- Predator control
- Habitat enhancement
- Habitat corridors
- Protection and ID of source populations



Take home message

- The bulk of the extant populations of each exist within the SFB estuarine system.
- Each species is a key component of a healthy and functional tidal marshland.
- Each is highly sensitive to environmental variables—changing salinity values, water levels, predation pressure, and human impacts.
- The presence or absence of these species are critical indicators of marsh viability.
- Enhancement of rail habitat benefits other marsh-dependent species!

Marsh-dependent birds

